

What is claimed is:

1. A bone repair material, comprising:

a porous, resorbable particulate derived of anorganic bone mineral or natural bone-like mineral or synthetic hydroxyapatite; and

a resorbable carrier gel component for suspending said particulate, forming a putty-like formulation, for placing in a bony defect, said gel component having a sufficiently high molecular weight and concentration in the putty wherein concentration of the particulate material is sufficiently high such that bone repair is facilitated while migration and expansion of said material is minimized.

2. The bone repair material of Claim 1 wherein said resorbable particulate is bovine-derived having a particle size range of 250 to 1000 μm .
3. The bone repair material of Claim 1 wherein said resorbable particulate is a porous hydroxyapatite derived from lime-containing algae, having a particle size range of 300-1000 μm .
4. The bone repair material of Claim 1, wherein said carrier gel component comprises a polysaccharide.
5. The bone repair material of Claim 4, wherein said carrier material component is hyaluronic acid or its derivatives, or hydroxypropyl cellulose or mixtures thereof.
6. The bone repair material of Claim 5, wherein said carrier gel component is hyaluronic acid or its derivatives having a molecular weight of $0.7\text{-}2.0 \times 10^6$ daltons and a final concentration of 45 -64 mg/cc in the putty.

7. The bone repair material of Claim 1, further comprising a synthetic biomimetic, polypeptide sequence of Type I collagen, having at least one of the poly-peptide sequences as claimed in US Patent 5,635,482, bound to said particulate.
8. A bone repair material for dental bone repair procedures, comprising:

a porous, synthetic, resorbable, bone-like hydroxyapatite or anorganic bone derived particulate, in an amount of about 30-75 weight percent of said material; and

a hyaluronic acid gel in an amount of about 25-70 weight percent of said material, wherein said material is a moldable, cohesive putty for application to bony defects, said amount of particulate present dependent upon its density.
9. The bone repair material of Claim 7, wherein said particulate has a bulk density of 1.1 to 1.3 g/cc and the putty composition comprises about 50-60 weight percent particulate and about 40-50 weight percent hyaluronic acid gel.
10. The bone repair material of Claim 7, wherein said bone repair material comprises about 55 weight percent particulate and about 45 weight percent hyaluronic acid gel.
11. The bone repair material of Claim 7, wherein said particulate has a bulk density of 0.45 to 0.65 g/cc and the putty composition comprises 35-40 weight percent particulate and 60-65 weight percent hyaluronic acid.
12. The bone repair graft material of Claim 4, wherein said carrier is a hydroxylpropyl cellulose or methyl cellulose gel forming a moldable, cohesive putty.
13. The bone repair material of Claim 8 comprising at least one of a P-15 polypeptide sequence of collagen as claimed in U.S. Patent 5,635,482, bound to xenogeneic bone mineral particulate of about 200-500 mm in diameter, suspended in said gel carrier, said

material having a putty-like consistency.

14. The bone repair material of Claim 3 comprising at least one of a P-15 polypeptide sequence of collagen as claimed in U.S. Patent 5,635,482 and continuations thereof, bound to porous hydroxyapatite derived from lime containing algae of about 300-1000 μm in diameter suspended in hydroxypropyl cellulose or hyaluronic gel carrier, said material having a putty-like consistency.
15. A method of treating bone loss and repairs thereof, comprising:

making an incision in gum tissue adjacent a bony defect and reflecting a flap of said tissue to expose said defect;

debriding said defect and adjacent tooth roots at said defect:

placing the bone repair material of Claim 1 in said defect; and

closing said tissue flap to cover the treated defect.
16. The method of Claim 15, wherein placing the repair material is by spatula, instrumentation, hand, or injection.
17. The method of Claim 15, wherein said bone repair material comprises said is a P-15 polypeptide sequence of collagen bound to xenogeneic bone material particulates, suspended in an hydroxypropyl cellulose (HPC) or hyaluronic acid or derivatives gel carrier, said material having a putty-like consistency.
18. The method of Claim 15, wherein said bone loss and repairs comprise placing said bone putty in a defect on the alveolar ridge, in an extraction socket, to correct sinus elevation defects or to repair an implant dehiscence.

19. The bone repair material of Claim 7, wherein the concentration of PEPGEN P-15 in the putty at least about 800 mg/cc.